

AMENDMENTS TO THE CLAIMS

In the claims:

1. (Currently Amended) A fuel blend for use in an internal combustion engine, the fuel blend comprising:

a hydrocarbon-containing fuel component selected from the group consisting of gasoline and diesel;

an oxygen-containing component capable of providing oxygen for combustion of the fuel component under conditions prevailing during the combustion cycle of the internal combustion engine, the oxygen-containing component providing substantially all of the oxygen derived from the fuel blend in this manner;

wherein the oxygen-containing component ~~consists essentially of~~ is one or more compounds having the general formula (I):



wherein R_1 is selected from hydrogen, lower alkyl, lower alkenyl and lower alkynyl groups;

R_2 is selected from lower alkyl, lower alkenyl and lower alkynyl groups, or a group having the general formula (II):



wherein R_3 is selected from lower alkyl, lower alkenyl and lower alkynyl groups; and

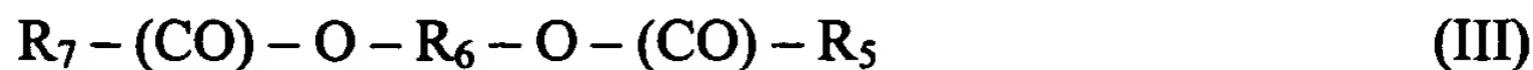
R_4 is selected from lower alkyl groups,
the oxygen-containing component being present in an amount sufficient to provide an oxygen-content in the fuel blend of at least 1% by weight.

2. (Original) A fuel blend as claimed in claim 1, wherein R₁ is selected from hydrogen, C₁ or C₂ alkyl, C₂ alkenyl and C₂ alkynyl groups.
3. (Original) A fuel blend as claimed in claim 2, wherein R₁ is selected from hydrogen, C₁ or C₂ alkyl.
4. (Original) A fuel blend as claimed in claim 3, wherein R₁ is methyl.
5. (Original) A fuel blend as claimed in claim 3, wherein R₁ is ethyl.
6. (Original) A fuel blend as claimed in claim 1, wherein R₂ is selected from C₁ to C₄ alkyl, C₂ alkenyl and C₂ alkynyl groups.
7. (Original) A fuel blend as claimed in claim 6, wherein R₂ is C₁ or C₂ alkyl.
8. (Original) A fuel blend as claimed in claim 7, wherein R₂ is methyl.
9. (Original) A fuel blend as claimed in claim 7, wherein R₂ is ethyl.
10. (Original) A fuel blend as claimed in claim 1, wherein the compound of general formula (I) is methyl acetate.
11. (Original) A fuel blend as claimed in claim 1, wherein the compound of general formula (I) is ethyl acetate.
12. (Original) A fuel blend as claimed in claim 1, wherein the compound of general formula (I) is methyl formate.
13. (Original) A fuel blend as claimed in claim 1, wherein the compound of general formula (I) is ethyl formate.

14. (Original) A fuel blend as claimed in claim 1, wherein the compound of general formula (I) is tertiary butyl acetate.
15. (Original) A fuel blend as claimed in claim 1, wherein R₂ is a group of general formula (II), in which R₃ is a C₁ to C₄ alkyl.
16. (Original) A fuel blend as claimed in claim 15, wherein R₄ is a C₁ to C₄ alkyl.
17. (Previously Amended) A fuel blend as claimed in claim 15, wherein R₃ and R₄ are each independently selected from C₁ or C₂ alkyl.
18. (Original) A fuel blend as claimed in claim 1, in which the compound of general formula (I) is ethylene glycol diacetate.
19. (Previously Cancelled)
20. (Original) A fuel blend as claimed in claim 1, wherein the major oxygen-providing component comprises a first compound of formula (I), in which R₂ is ethyl, and a second compound of formula (I), in which R₂ is methyl.
21. (Original) A fuel blend as claimed in claim 20, wherein both the first and second compounds are compounds in which R₁ is a C₁ to C₄ alkyl.
22. (Original) A fuel blend as claimed in claim 21, wherein the first compound and the second compound are present in a ratio of from 1:5 to 5:1.
23. (Original) A fuel blend as claimed in claim 21, wherein the first compound and the second compound are present in a ratio of from 1:1 to 1:1.5.
24. (Original) A fuel blend as claimed in claim 23 20, wherein the first compound is methyl acetate and the second compound is ethyl acetate.

25. (Original) A fuel blend as claimed in claim 1, wherein the major oxygen-providing component comprises a first compound of formula (I), in which R₂ is a group of general formula (II), and a second compound of formula (I), in which R₂ is a C₁ to C₄ alkyl.
26. (Original) A fuel blend as claimed in claim 25, wherein the first compound is a compound in which R₁ is a C₁ to C₄ alkyl.
27. (Original) A fuel blend as claimed in claim 26, wherein the second compound is a compound in which R₁ is a C₁ to C₄ alkyl.
28. (Original) A fuel blend as claimed in claim 27, wherein the first compound is ethylene glycol diacetate.
29. (Original) A fuel blend as claimed in claim 28, wherein the second compound is selected from methyl acetate, ethyl acetate and mixtures thereof.
30. (Original) A fuel blend as claimed in claim 25, wherein the first compound and second compound are present in a ratio of from 0.5:1 to 10:1.
31. (Original) A fuel blend as claimed in claim 30, wherein the first compound and second compound are present in a ratio of from 1:1 to 5:1.
32. (Cancelled)
33. (Cancelled)
34. (Cancelled)
35. (Cancelled)

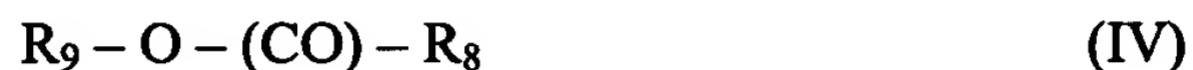
36. (Currently Amended) A fuel blend as claimed in claim 32 1, further comprising a stabilizer, wherein the compound of general formula (I) and the stabilizer are present in a ratio of from 20:1 to 150:1.
37. (Original) A fuel blend as claimed in claim 36, wherein the compound of general formula (I) and the stabilizer are present in a ratio of from 75:1 to 125:1.
38. (Previously Cancelled)
39. (Previously Cancelled)
40. (Previously Cancelled)
41. (Previously Cancelled)
42. (Original) A fuel blend as claimed in claim 1, further comprising a biocide.
43. (Original) A fuel blend as claimed in claim 1, wherein the hydrocarbon-containing fuel component is gasoline and the compound of general formula (I) is present in an amount sufficient to provide an oxygen-content in the fuel blend of 1 to 5 percent by weight.
44. (Original) A fuel blend as claimed in claim 1, wherein the hydrocarbon-containing fuel component is diesel and the compound of general formula (I) is present in an amount sufficient to provide an oxygen-content in the fuel blend of 1 to 10 percent by weight.
45. (Original) An oxygenating additive for a hydrocarbon-containing fuel comprising:
a first compound having a general formula (III):



wherein R_5 is selected from lower alkyl, lower alkenyl and lower alkynyl groups; R_6 is selected from lower alkyl; and

wherein R_7 is selected from lower alkyl, lower alkenyl and lower alkynyl groups; and

a second compound having a general formula (IV):



wherein R_8 is selected from hydrogen, lower alkyl, lower alkenyl and lower alkynyl groups; and

R_9 is selected from lower alkyl, lower alkenyl and lower alkynyl groups.

46. (Original) An oxygenating additive as claimed in claim 45, wherein R_5 is selected from C_1 to C_4 alkyl.
47. (Original) An oxygenating additive as claimed in claim 46, wherein R_5 is methyl.
48. (Original) An oxygenating additive as claimed in claim 45, wherein R_6 is ethyl.
49. (Original) An oxygenating additive as claimed in claim 45, wherein R_7 is selected from C_1 to C_4 alkyl.
50. (Original) An oxygenating additive as claimed in claim 49, wherein R_7 is methyl.
51. (Original) An oxygenating additive as claimed in claim 45, wherein the compound of general formula (III) is ethylene glycol diacetate.
52. (Original) An oxygenating additive as claimed in claim 45, wherein R_8 is selected from hydrogen, and C_1 to C_4 alkyl.

53. (Original) An oxygenating additive as claimed in claim 52, wherein R₈ is methyl.
54. (Original) An oxygenating additive as claimed in claim 45, wherein R₉ is selected from C₁ to C₄ alkyl.
55. (Original) An oxygenating additive as claimed in claim 54, wherein R₉ is selected from methyl and ethyl.
56. (Original) An oxygenating additive as claimed in claim 45, wherein the compound of general formula (IV) is selected from methyl acetate and ethyl acetate and mixtures thereof.
57. (Original) An oxygenating additive as claimed in claim 45, wherein the compound of general formula (III) and the compound of general formula (IV) are present in a ratio of from 0.5:1 to 5:1.
58. (Original) An oxygenating additive as claimed in claim 57, wherein the compound of general formula (III) and the compound of general formula (IV) are present in a ratio of from 1:1 to 2.5:1.
59. (Original) An oxygenating additive as claimed in claim 45, further comprising a biocide.
60. (Original) An oxygenating additive as claimed in claim 45, further comprising a stabilizer.
61. (Original) An oxygenating additive as claimed in claim 60, wherein the stabilizer is selected from alcohols having from 2 to 5 carbon atoms.

62. (Original) An oxygenating additive as claimed in claim 61, wherein the stabilizer is ethanol.

63. (Original) An oxygenating additive as claimed in claim 60, wherein the ratio of the combined amounts of the compounds of general formulae (III) and (IV) to the stabilizer is from 20:1 to 150:1.

64. (Original) An oxygenating additive as claimed in claim 63, wherein the ratio of the combined amounts of the compounds of general formulae (III) and (IV) to the stabilizer is from 75:1 to 125:1.

65. (Previously Cancelled)

66. (Previously Cancelled)

67. (Previously Cancelled)

68. (Previously Cancelled)

69. (Previously Cancelled)